Encl = 5/15/02

Naintsch Mineralwerke GmbH - A - 8045 Graz - Austria - Tel. +43 (0316) 693650 - Fax +43 (0316) 693665

NAINTSCH

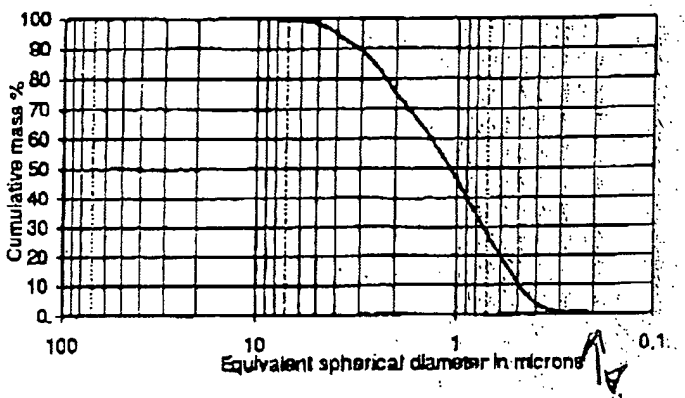
DATA SHEET

NAINTSCH A-3

Naintsch A-3 is an extremely pure, very white talc. With its high aspect ratio and ultrafine grind, it improves nucleation in crystalline polymers.

WHITENESS	Minolta CR-300 Illuminant D65/2°	Y	93.0
		CIE L*	97.2
		a*	0.0
		b*	0.8
PARTICLE SIZE DISTRIBUTION	Screen residue Alpine Airjet	> 15 µm	0.03 %
	Sedigraph 5100	d50	1.2 µm
		d95	4.4 µm

Sedimentation



SPECIFIC SURFACE AREA	Blaine 10 DIN 66131/2	Blaine	50000
		BET	14.5 m²/g
CHEMICAL ANALYSIS	Colorimetry AAS	SiO_2	62.0 %
		MgO	31.5 %
		Al_2O_3	0.4 %
		Fe_2O_3	0.2 %
		CaO	0.3 %
	Loss on ignition 1050 °C		6.0 %
	625 °C		0.9 %
PHYSICAL PROPERTIES	ISO 787/10	Specific gravity	2.78 g/cm³
	ISO 787/11	Tapped bulk density	0.20 g/cm³
	DIN 52110	Loose bulk density	0.17 g/cm³
	Mohs' scale	Hardness	1
	ISO 787/2	Moisture content (105 °C)	≤ 0.4 %

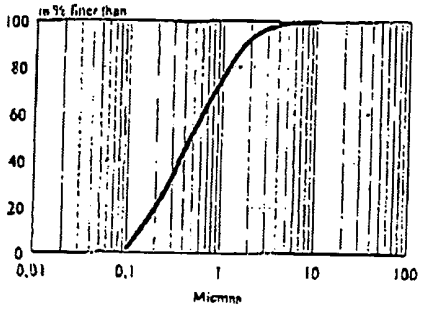
These data are presented in good faith as typical values for this product. They are not to be considered as binding.

A-30.doc (nai 543/ Wei/R9) 9/98K

Producer : IMI FABI S.p.A.

HiTalc Premium HTP ultra 5c

Mineralogy	Thermogravimetric and X-ray Diffraction		
Laminar	Talc	99-100	%
	Chlorite	traces	
Granular	Dolomite	< 1	%
	Quartz	< 0,5	%
Fibrous	Asbestos	not detected	
	Tremolite	not detected	
Brightness	Minolta CR 300	97	CIE L
		0,10	a*
		0,40	b*
		93	Y
Particle Size Distribution Sedigraph 5100		99	% < 5 µm
		92	% < 2 µm
		75	% < 1 µm
	Median Diameter	0,50	µm
	Hegman Grindometer Fineness	7,5	
	Specific Gravity	2,8	g/cm³
	Bulk density	0,90	g/cm³
	Specific Surface BET N_2	13	m²/g
Chemical Analysis	SiO_2	61,5	%
	MgO	31	%
	CaO	0,5	%
	Fe_2O_3	0,7	%
	Al_2O_3	0,4	%
Loss on ignition	1050 °C	5,7	%
Hardness	Talc	1	Mohs
Abrasivity	Einlehner AT 1000	2	mg
Refractive Index		1,6	
pH	10 % acqueous solution	9	
Moisture	105 °C	0,5	max.%



The data presented herein are believed to be typical for production. They are based on most recent testing. This information should be used as a guide. No warranty, expressed or implied, is made as to suitability. The user is solely responsible for the use of this product. 12/99

Marketing : **HiHolding** GmbH
A-8045 Graz, Austria, P.B. 60
Nepomukgasse 21
☎ + 43-316-682072 fax : +43 316-6920724

Talk Naintsch ST

Talk Naintsch ST ist ein natürliches Gemenge von Magnesiumsilikathydrat und Magnesiumaluminiumsilikathydrat mit ausgeprägter Plättchenstruktur (hohes Aspektverhältnis).

Mineralogische Daten

Talk/Chlorit

Chemische Daten

Chemische Analyse (%)

SiO_2	48
MgO	30
Al_2O_3	10,5
Fe_2O_3	2
Glühverlust (1050 °C, 1h)	9
Säurelöslichkeit (%) (HCl 1%, 20 °C, 20 min.)	2
pH-Wert DIN ISO 787/9	9

Physikalische Daten

Härte (Mohs)	
Talk	1
Chlorit	1-2
Dichte (kg/dm³) DIN ISO 787/10	2,8
Feuchte ab Werk (%) DIN ISO 787/2 (max.)	0,5
Hellbezugswert DIN 5033	
FMX	68
FMY	68
FMZ	65

ST-10 : 0.62 DM/kg
ST-6 : 0.40 DM/kg
ST-7 : Sollen eingestellt produziert

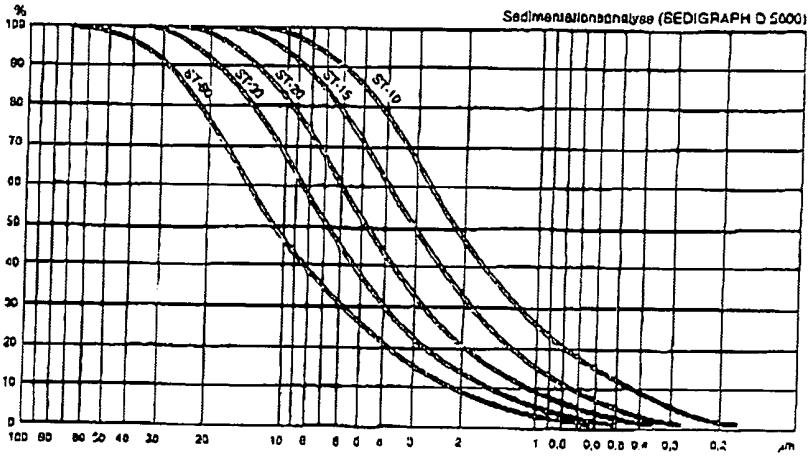


Foto: Rasterelektronenmikroskop (1 cm ≙ 1,4 µm)

Siebanalyse DIN 66165 Rückstand in % auf	ST-60	ST-30	ST-20	ST-15	ST-10
60 µm	2,0				
30 µm		2,0			
20 µm			2,0		
15 µm				2,0	
10 µm					2,0
Stampfdichte (kg/dm³) DIN ISO 787/11	0,87	0,77	0,55	0,47	0,38
Schüttdichte (kg/dm³) DIN 52110	0,60	0,53	0,41	0,40	0,36
Ölzahl (g/100 g) DIN ISO 787/5	31	35	38	41	44
Spez. Oberfläche Blaine 10	10000	13800	21000	25500	29000

Diese technischen Angaben stellen mit Sorgfalt ermittelte Durchschnittswerte der Produktion dar. Sie entbinden nicht von einer Eingangskontrolle und sind keine Garantiewerte. Verfahrenstechnisch bedingte Änderungen in der Produktion behalten wir uns vor. Mit dieser Ausgabe verlieren ältere Datenblätter ihre Gültigkeit.

ISO 9002 BVQI APPROVED

Luzenac NAINTSCH

NAINTSCH MINERALWERKE GmbH
A-8045 Graz, Stattegger Straße 80
Tel.: 0316 / 69 36 60, Fax: 0316 / 69 36 66

Ausgabe III / 05 / 2000

Talk Naintsch A

Talk Naintsch A ist ein Magnesiumsilikathydrat mit ausgeprägter Plättchenstruktur (hohes Aspektverhältnis).

Mineralogische Daten Talk

Chemische Daten

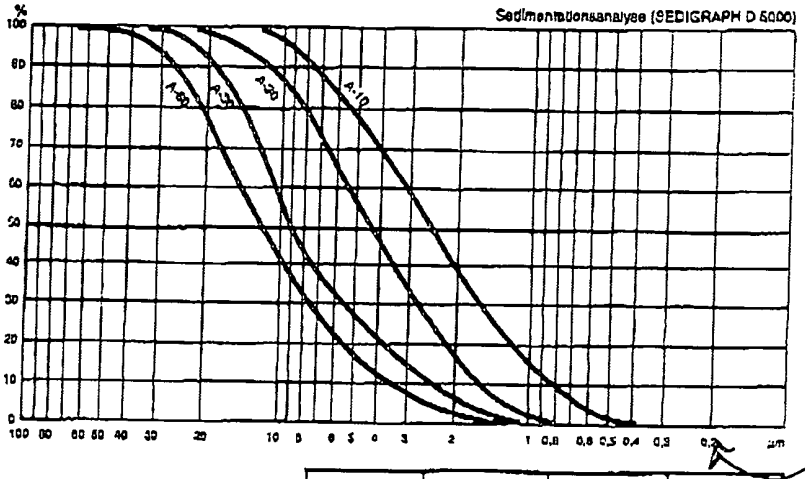
A5: 1.83 DM/kg
A60: 1.10 DM/kg
A3: 2.30 DM/kg
A30: 1.20 DM/kg

Chemische Analyse (%)

SiO_2	60
MgO	31,5
Al_2O_3	1
Fe_2O_3	0,8
CaO	0,6
Glühverlust (1050 °C, 1 h)	5,5
Säurelöslichkeit (%) (HCl 1 %, 20 °C, 20 min)	3
pH-Wert DIN ISO 787/9	9,3

Physikalische Daten

Härte (Mohs)	1
Dichte (kg/dm³) DIN ISO 787/10	2,8
Feuchte ab Werk (%) DIN ISO 787/2	0,5



Siebanalyse DIN 66165	A-60	A-30	A-20	A-10
Rückstand in % auf 60 µm	2,0			
30 µm		2,0		
20 µm			2,0	
10 µm				2,0
Hellbezugswert				
DIN 5033 FMX	92	92	93	93
FMY	92	92	93	93
FMZ	91	91	92	92
Stampfdichte (kg/dm³) DIN ISO 787/11	0,78	0,69	0,33	0,27
Schüttdichte (kg/dm³) DIN 52110	0,49	0,44	0,25	0,21
Ölzahl (g/100 g) DIN ISO 787/5	37	39	51	53
Spez. Oberfläche Blaine 10	10000	12500	24000	33000

Foto: Rasterelektronenmikroskop (1 cm = 1,4 µm)

Diese technischen Angaben stellen mit Sorgfalt ermittelte Durchschnittswerte der Produktion dar. Sie entbinden nicht von einer Eingangskontrolle und sind keine Garantiewerte. Verfahrenstechnisch bedingte Änderungen in der Produktion behalten wir uns vor. Mit dieser Ausgabe verlieren ältere Datenblätter ihre Gültigkeit.

ISO 9002 BVQI APPROVED

Ausgabe IV/96/2000

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Specialty MINERALS

MICROTUFF® AG appearance grade talcs

Barretts Minerals Inc. Technical Data

A subsidiary of Specialty Minerals Inc.

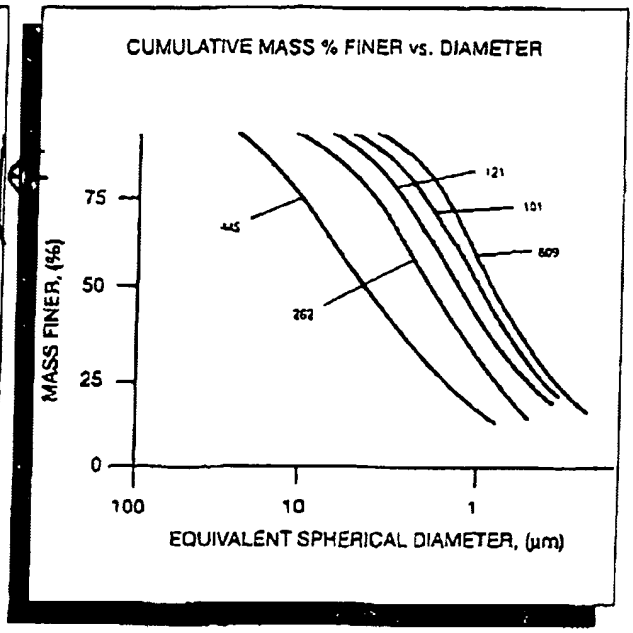
MICROTUFF® AG Talc

MICROTUFF® talc products are produced in Barretts, Montana from an extensive deposit of high quality talc ore. These products are characterized by a platy shape, closely controlled particle size distribution, and no detectable quantities of any of the asbestiform minerals. This family includes a series of five products ranging from 6 microns top size to 44 microns top size.

They are specifically designed for polymer applications where color of the finished part is of critical importance. In addition to superior color, polyolefin compounds filled with MICROTUFF® AG talc products have enhanced long term heat stability when compared to compounds filled with unmodified talcs.

Physical Properties
(typical)

MICROTUFF® AG	609	101	121	262	445
Median Particle Size (microns)	0.8	1.0	1.3	2.3	5.5
Specific Gravity	2.8	2.8	2.8	2.8	2.8
Dry Brightness (Hunter Y, Ag value)	90	90	90	90	87
Bulk Density (pounds/ft³)	6.4	6.4	9.5	12.5	21
(grams/cc)	0.10	0.10	0.15	0.20	0.34
Tap Density (pounds/ft³)	20	22	22.6	34	49
(grams/cc)	0.32	0.35	0.36	0.54	0.78
Retention 325 Mesh, %	nil	nil	nil	trace	0.6
pH Value	8.8	8.8	8.8	8.8	8.8



Chemical Composition
(typical)

Silicon Dioxide	SiO_2	60%
Magnesium Oxide	MgO	33%
Aluminum Oxide	Al_2O_3	1.0%
Iron As	Fe_2O_3	1.2%
Loss on Ignition	L.O.I.	5.5%
Moisture (% weight loss @ 110° C)	H_2O	<0.5%

Printed on paper made with Specialty Minerals Inc. PCC.

Sales Offices
Bethlehem, PA • (800) 801-1031 • FAX (610) 882-8726
Lakewood, CA (800) 255-5832 • FAX (562) 497-8771

TALC 10-97

Specialty MINERALS
Your Technology Resource™

Barretts Minerals Inc.
A subsidiary of Specialty Minerals Inc.

MICROTALC™ talc
Technical Grade Talcs

Technical Data ▼ MICROTALC® Technical Grade Talcs

Specialty Minerals Inc. (SMI) MICROTALC™ technical grade talc products are produced by Barretts Minerals Inc., from an extensive deposit of high quality Montana talc ore. SMI's MICROTALC™ talc (Magnesium Silicate) products are designed for use in a number of applications including: thermoset & thermoplastic polymers, adhesives & sealants, caulks, putties & spackles and other numerous industrial applications. MICROTALC™ talc products are cost effective, chemically inert, platy, high brightness talcs used for reinforcement, improved weatherability and general improvements in mechanical properties.

This versatile line of high brightness, platy talcs is available in a full range of particle sizes to satisfy the requirements of most applications.

Typical Properties

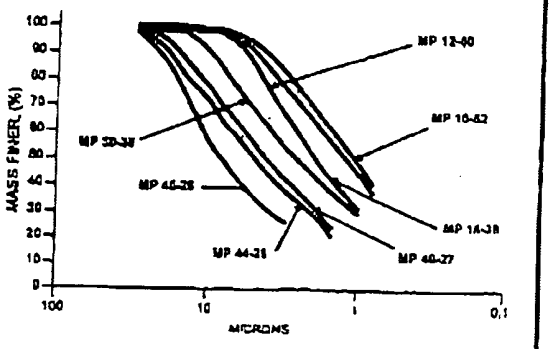
	MICROTALC™ Technical Grade Talcs						
	MP 10-52	MP 12-50	MP 15-38	MP 30-36	MP 40-27	MP 44-26	MP 45-26
Median Particle Size (microns)	1.0	1.2	2.0	3.0	4.0	5.0	8.0
Hegman Fineness (minimum)	6.5	6.0	5.75	5.0	3.75	3.0	2.0
Retention, 325 Mesh, %	-	-	-	-	-	0.6	0.9
Dry Brightness (Hunter Y, Rd Value)	89	88.5	89	87	88	87	85
Oil Absorption	55	53	42	34	30	28	26
Bulk Density (pounds/ft³)	6.4	7.5	12	16	20.5	21	23
(grams/cc)	0.10	0.12	0.19	0.26	0.33	0.34	0.37
Tap Density (pounds/ft³)	22	22.8	33	34.7	46	49	51
(grams/cc)	0.35	0.36	0.53	0.56	0.74	0.79	0.82
pH	8.8	8.8	8.8	8.8	8.8	8.8	8.8
Specific Gravity	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Bulking Value Wt/solid gal. (lbs.)	23.3	23.3	23.3	23.3	23.3	23.3	23.3

Chemical Composition
(typical)

Silicon Dioxide	SiO_2	61%
Magnesium Oxide	MgO	31%
Calcium Oxide	CaO	<0.5%
Aluminum Oxide	Al_2O_3	1%
Iron As	Fe_2O_3	<1.3%
Loss on Ignition	L.O.I.	5.5%
Moisture (% weight loss @ 110° C)	H_2O	<0.5%

Particle Size Distribution

CUMULATIVE MASS % FINER vs. DIAMETER



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